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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,442	01/06/2004	Shigeru Kikuchi	A8319.0028/P028	2574

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EXAMINER	
FRIEDHOFER, MICHAEL A	
ART UNIT	PAPER NUMBER
2832	

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/751,442	KIKUCHI ET AL.	
	Examiner	Art Unit	
	Michael A. Friedhofer	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0902*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 5 prior to "said" insert –in--.

In claim 2, it appears that all of these elements are supposed to be in the contact at the same time which is not supported by the specification or drawings.

Replace "and" with –or--.

In claim 3 and 4, the phase "is contained at" is awkward phraseology making it unclear what is exactly being claimed.

In claim 6, line 2 prior to "electrical" insert –said--.

In claim 6, it appears that the hole has a disc shape and is in the center of itself which is impossible.

In claim 6, line 6 it is confusing to claim that the grooves are connected to a n outer peripheral portion of the center hole from the center portion of the hole.

In claim 6, line 7 prior to "in" insert –and--.

In claim 7, lines 3-4 "said electrical contact member" has no antecedent basis.

In claim 8, lines 5-6 "said electrical contact member" has no antecedent basis.

In claim 9, line 5 replace "of" with –or--.

In claim 9, line 6 after "as" insert –in--.

In claim 15, line 8 replace "arm" with –arc--.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5 and 7-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Santilli.

Santilli discloses in the figure an electrical contact including a high conductive metal formed of copper and bismuth, a refractory element made of chromic oxide, and an active metal formed of chromium. The refractory element may be included up to 7 weight %. The alloy is mainly constituted by the copper. The weight ratio between the refractory element and the active metal is in a range between 100:2 and 100:20. The contact is heated and sintered at a temperature equal to or less than the melting point of the high conductive metal after it has been pressure molded. The grain diameter of the refractory element power and the active metal power may be equal to or less than 10 micrometers. The grain diameter o the high conductive metal powder may be less than 60 micrometers. The relative density obtained by the pressure molding may be 65% and the relative density after being sintered may be equal to or more than 92%. As for the pressure range, this is a matter of engineering design choice and would be inherent due to the contact structure and constituent are the same as those being claimed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 6 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santilli in view of Kimura et al.

Santilli discloses all of the claimed limitations with the exception of the specific shape of the contact.

Kimura et al discloses in figures 1-12 a vacuum interrupter including movable contact including center hole 7 formed in the center of the disc shape and a plurality of penetrating grooves 2 formed so as to be connected to an outer peripheral portion of the hole but in non-contact with the center hole. The contact includes a reinforcing member 5,8 integrally bonded to an opposite surface to an arc generating surface. An electrode rod 6 is bonded to the reinforcing member. The rod is inserted in the center hole of both the reinforcing member and the contact as is bonded thereto and a surface of the rod close to the arc generation is formed lower than the arc-generating surface. The rod has a small-diameter portion in which a diameter of a portion bonded to the reinforcing member is smaller than a diameter of a portion connected to an external portion. Though

not shown there are conductor terminals connected to the fixed and movable side electrodes and a closing/opening means drives the movable side electrode. It would have been obvious to one of ordinary skill in the art to apply the teachings of Kimura et al to Santilli to shape the contact in this form because the shape is for the purpose of stretching the arc to blow it out with the reinforcing member supports the contact from being misshapen. As for the switchgear structure, these are well known structures in the art and it would have been obvious to one of ordinary skill in the art utilize the interrupter in the switchgear because the location of the interrupter would not alter the function, structure, or operation of the contact within the interrupter.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Iyer et al, Fey et al, Ahn et al, Kikuchi et al ('275 & '167), Kim, and Asakawa et al teach various contact materials and structures for use in vacuum interrupters.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Friedhofer whose telephone number is 571-272-1992. The examiner can normally be reached on Mon-Fri 6:00 - 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael A. Friedhofer
Primary Examiner
Art Unit 2832

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